

6. The impact of railway transport on urbanization processes and economic development in Southern Ukraine

Abstracts.

Railway transport is one of the most important sectors of the national economy of Ukraine, a catalyst for economic growth and improvement of the quality of life of citizens. It meets the needs of production and the population in all types of transportation. Railway transport plays a leading role in the implementation of domestic and occupies a significant place in the establishment of foreign economic relations of Ukraine. Comprehensive coverage and generalization of the historical process of formation of the railway transport network on the Ukrainian territory, taking into account the interrelationships of the state legislative framework with the construction of railways, makes it possible to identify and analyze the impact of railway transport on urbanization processes in the South of Ukraine in the second half of the XIX and early XX centuries.

6.1 The role of railway transport in the development of cities in the southern region of Ukraine and the formation of cities of a new type - railway junctions

In the course of reforming the economic structure of the national economy in the second half of the nineteenth century, rail transport became important for the development of the southern region of Ukraine. In the 60s and 70s, railroads became an important factor in completing the industrial revolution in industry and preparing the development of capitalism in agriculture. The formation of railroad transport helped to establish connections. By connecting separate regions, railroads became a catalyst for modernization processes in the economy. With the development of the railroad network in southern Ukraine, there were changes in the number of cities. The largest cities in southern Ukraine were Odesa, Katerynoslav, Mykolaiv, Kherson, Sevastopol, and others. The development of rail transport led to the emergence of a new type of cities - railway junctions, the largest of which were Znamianka, Rozdilna, Birzula,

Apostolove, Dzhankoi, etc. The formation of the railroad network in the southern region resulted in the concentration of production and urbanization processes. The development of cities was accompanied by an increase in the urban population of large cities and a decrease in the number of towns (with a population of up to 10 thousand).

With the development of railroad transport in the south of Ukraine, the economic specialization of the cities of Kherson, Tavria, and Katerynoslav provinces was outlined. For example, Mykolaiv's industry specialized in metalworking and mechanical engineering, and a port operated on the left bank of the Bug Estuary. At the end of the nineteenth century, Mykolaiv port ranked third in terms of trade after St. Petersburg and Odesa, and the city became an important industrial and commercial center.

The formation of the railway transport network contributed to the accession of Mykolaiv to the national railway system [1, p.77]. The commissioning of local railways also influenced the development of the city. The establishment of transport links in Mykolaiv was supposed to ensure the creation of a single municipal complex, but its construction required additional costs from the city budget. To address this issue, city governments resorted to attracting private capital and concluded agreements with joint-stock companies, granting concessions for the construction of horse-drawn railroads [2, p. 54].

The construction of horse-drawn railroads, which began in the 60s of the nineteenth century, contributed to the development of towns in the Kherson province [3, p.14]. The expansion of Kherson's railroad communications in the early twentieth century contributed to the city's transformation into an important transportation hub.

The horse-drawn railways in Odesa played an important role in the development of the port and the establishment of industrial enterprises [4, p.590-591].

Gradually, with the development of transportation networks, horse-drawn railways were replaced by a more efficient, electric tram. At the end of the nineteenth century, the most important trade centers were equipped with tramways in particular in 1898 an electric tram appeared in Katerynoslav, and in 1899 - in Sevastopol [5, p.3]. In 1914, the construction of an electric tram began in the provincial city of Kherson,

but it was never put into operation.

The development of the railway transport network in southern Ukraine contributed to the growth of colonization processes and the emergence of settlements near railway stations, which, due to their good location, especially at the intersection of railways with navigable rivers, were rapidly built and developed [6, p.2; 7, p.5]. Urbanization processes led to the emergence of many factory-type towns, mining and railway settlements with a rapidly growing population in the southern Ukrainian provinces [8, p.29].

Villages and towns that appeared near railway stations merged with the latter and grew into important railway junctions. The largest among them in the Kherson province were Birzula, Rozdilna, Holta, Olviopil, and Znamianka. In the territory of the Yekaterinoslav province, the railroad stations of Apostolove, Polohy, and Novomoskovsk were prominent. The Dzhankoi station was an important railway junction in the Tavriya province in the second half of the nineteenth and early twentieth centuries. As a result of the development of industry and trade, and the expansion of the railway infrastructure, railway junctions turned into strategically important cities.

In 1863, the construction of the Odesa-Parkany railway with a branch to Yelisavethrad marked the beginning of the functioning of the Birzula railway station, which was supposed to become an important railway junction [9, p.365]. The section of the Odesa-Balta railway through Birzula was put into operation on December 3, 1863. From Birzula, railway construction began in the direction of Kharkiv through Balta-Yelisavethrad-Kryukiv, where train traffic opened in October 1869 [10, p.6].

The construction of the railroad contributed to the emergence and development of Birzula's industry and increased the marketability of agriculture, especially vegetable growing, horticulture, and viticulture. The railway station which had a cargo turnover of 34 million poods in the 1880s and 1890s contributed to the rise of trade and colonization of the region. According to the census data, 859 people lived in the city in 1886-1887 [11, p.17]. At the beginning of the twentieth century, Birzula grew from a small village into a new type of city - a railway junction.

Rozdilna, as a junction railway station, appeared in 1863 as a result of the

construction of the Odesa-Balta railway line (1863-1865). The settlement appeared in the place where the railway line branched in the direction of Parkan and Birzula, which is why it was named Rozdilna [12, p.102]. At the initial stage of development, the settlement consisted of 20 yards with 179 people who worked mainly on the railroad [13, p.661]. The development of the transport system led to the intensification of railway construction in the south of Ukraine, and the railways that passed through Rozdilna contributed to its transformation into an important railway junction. Rozdilna station was located in a fairly favorable location at the intersection of important trade routes, 43 versts from Tiraspol and 68 versts from Odesa [14, p.30-31]. In the early twentieth century Rozdilna grew into a first-class station with a population of 1174 people, 300 of whom worked on the railroad [15, p.661].

The cities of Olviopol, Bogopil, and the village of Golta (now Pervomaisk), which were located on the border of three counties: Ananyiv, Yelysavetgrad, and Balt, were of great importance for the development of the railway transport network in the south of Ukraine. An important trade area with the Odesa-Yelysavetgrad railway branch turned into a transit point connecting Odesa with the interior regions of the Kherson province, contributing to the establishment of internal trade relations in the region. In 1859, 5,187 people lived there, at the end of the 19th century this figure increased and reached 21.5 thousand people [16, p.657].

The Znamyanka railway station was established in 1869 as a major railway hub on the Odesa-Balta-Yelysavetgrad railway section, the extension of which was the Kremenchuk-Kharkiv route. It served as an important point through which railways of national importance ran. In 1869, the Yelysavetgrad-Kryukiv railway line passed through Znamyanka, in 1873, train traffic was opened on the Znamyanka-Mykolaiv section, and in 1876 a railway was laid from Znamyanka to Fastov. The railway station, which arose near the small village of Znamyanka and got its name from it, with the expansion of the railway transport network, turned into an important railway junction, near which the villages of railway workers began to appear - Osypove, Linitske. The expansion of the railway junction in the following years led to a rapid growth of the population of the station villages.

As a result of the construction of a new direction of the Kateryninskaya railway – Dolhyntseve-Nikopol-Olexandrivsk-Volnovakha, which was completed in 1904, the railway station Apostolovo appeared near the village of Pokrovske [17, sheet 141]. In 1904, the construction of the local Kurakhiv railway, which was supposed to meet the needs of agriculture, was also completed [18, sheet 518-519]. The expansion of the railway network in the area of the railway station facilitated the export of agricultural products from the area of commercial agriculture adjacent to the station, as a result of which the commercial production of grain, which was transported by railways to the domestic market and outside the country, increased. Thus, until 1914, the Apostolove railway station was the second in export of wheat, eggs, and third in barley [19, p.147].

In 1873, the construction of the Lozovo-Sevastopol railway line on the territory of Tavria province led to the appearance of the Dzhankoy railway station, which was connected to Simferopol by a local railway. The intensive construction of the railway caused a new wave of settlement in the region. Through Dzhankoy, Tavria province had access to the central regions of the Russian Empire, which influenced the establishment of internal trade relations and the development of trade. Every year, freight traffic and passenger traffic increased at the station. The construction of the Kherson-Dzhankoy railway line by the Black Sea Railway contributed to the connection of the Dzhankoy railway station to the railway transport network of the Kherson province [20, sheet 4].

The formation and development of railway transport in the south of Ukraine contributed to the development of cities and their transformation into large industrial, factory centers, which expanded and became industrial and trade centers. The development of the railway transport network in the southern region led to the emergence of a new type of cities - railway hubs.

6.2 Development of the railway system and economic development of Southern Ukraine

In the post-reform period, the development of the railway system in Southern Ukraine contributed not only to the development of cities and the emergence of a new

type of cities - railway hubs, but also influenced the development of industry and agriculture in the region. Southern Ukraine in the second half of the 19th century became the center of development of heavy industry. The large deposits of ores found, especially iron and manganese, contributed to the development of metallurgy, and machine-building, primarily agricultural, transport, and metallurgical, developed at a high rate. The formation of the railway transport network contributed to the accelerated development of the coal and iron ore industry, because the operation of railways required a large amount of metal and coal [21, p.202]. A peculiarity of the development of Southern Ukraine was that an area of commercial grain farming was formed on its territory, which also needed a railway connection.

Railway transport connected remote and underdeveloped regions with the central provinces of the country, contributed to the establishment of internal economic ties and deepening of economic specialization. Establishing internal connections with the help of railways made significant changes in the direction of cargo movement. Goods were sent from the southern region of Ukraine to the central provinces. The South-Western Railway brought goods to the border, where they were transshipped on the railways, in particular, Moscow-Voronezh-Kyiv, Moscow-Kursk, Libava-Romensk, which transported goods to remote regions of the empire [22, p.45].

The high level of concentration of production, the fast pace of industrial development and the significant inflow of foreign capital invested in the construction of railways significantly accelerated the process of modernization of the economy of the southern region. Along with the decline of traditional branches of the economy and the introduction of mechanized production, separate centers of industry stood out, among which the south of Ukraine took a leading place. The concentration of the metallurgical and coal industry in the region testified to a new rise in the industrial level and the completion of the technical revolution [23, p.18].

With the development of the transport system, cities turned into industrial centers with economic specialization. Kyiv, Kharkiv, Odesa, Kherson, Yelysavetgrad, Mykolaiv became the largest centers of industry [24, p.26]. In the large cities of Southern Ukraine, the factory industry, which was equipped with steam engines, began

to grow at a high rate. Archive documents show that in the second half of the 19th century, in connection with the expansion of the railway transport network in the southern region, the intensive construction of industrial enterprises began [25, p.45].

Railways became the most organized component of the economic mechanism, the level of development of heavy industry depended on the direction of cargo flows. Local railways ensured the supply of hard coal to the main railway lines, such as Kateryninska, Kursk-Kharkivsko-Azov, Lozovo-Sevastopol, Kursk-Kyiv, South-West, Fastivska, Kozlovo-Voronezh-Rostov, Moscow-Brest and Vladikavkaz railways that transported goods of the mining industry outside Ukraine.

The formation of the railway transport network in the south of Ukraine and the increase in the volume of transported products led to the expansion of the railway infrastructure, which affected the development of steam locomotives and carriage construction [26, p.105]. The five largest wagon-building factories in Kyiv, Katerynoslav, Mykolaiv, Kharkiv, and Horlivka produced wagons both for use in the country and for export. In the 90s of the XIX century Kharkiv and Luhansk steam locomotive factories, which produced high-quality steam locomotives, were put into operation [27, p.99-100].

In the conditions of modernization of the economy, traditional branches of the economy continued to develop, in particular, sugarcane farming, sugar production, flour milling, butter industry, as well as cloth and linen production. The main purpose of railways was to transport finished products from the place of manufacture to the area of consumption [28, p.5]. Among the branches of the extractive industry, which continued to play an important role, was the salt mine, which turned from an ordinary peasant industry into a separate branch of industry. The main centers of salt production were Katerynoslav, Kherson, Tavria and Kharkiv provinces. At the end of the 90s of the XIX century salt began to be mined in Donbas [29, p.61]. The mined salt was transported by railways to the central regions of the empire, the Baltic States, Belarus, and Poland.

In the second half of the 19th century in the south of Ukraine, a district of commercial grain farming was formed, where the grain sales center moved. The

development of commodity-money relations and the abolition of serfdom significantly revived the economic life of the region [30, p. 55].

The agriculture of Southern Ukraine in the post-reform period entered the system of qualitative transformations. The railway transport network connected the south of Ukraine with the most remote regions of the empire and contributed to increasing the carrying capacity of the southern region [31, p.19; 32, p. 53]. The development of railway transport in the southern steppe provinces influenced the expansion of arable fields, on which drought-resistant varieties of wheat - bitter wheat, as well as technical crops were cultivated [33, p. 219].

In addition to grain crops, fruit and berry crops were cultivated in Southern Ukraine [34, p.72]. Among the provinces that were famous for the cultivation of fruit and berries and that were crossed by the South-Western Railway, the Bessarabian and Podil provinces stood out, in which horticulture and viticulture were at a fairly high level [35, p.1]. Horticulture acquired industrial importance and fruits were exported by railways not only to neighboring provinces, but also outside the country.

The variability of agricultural products required different conditions of transportation. The maximum speed and mobility of railways made it possible to transport goods much faster and in larger quantities, and with lower costs. Special technically equipped wagons were produced for transportation of demanding cargo, in particular, fruit. To begin with, ten such wagons were developed and put into operation. In 1894, the Southwestern Railway Administration increased the production of special fruit cars to 152. The ventilation system made it possible to transport fruit over long distances even in hot summer conditions; the possibility of heating this type of wagon made it possible to protect the goods from freezing during winter transportation [36, p.233]. The construction of special wagons made it possible to transport fruit all year round.

An important place in the economy was occupied by the sugar industry. Sugar beet cultivation in Ukraine began in the 20s of the XIX century and gradually the sugar industry began to occupy one of the leading places. In the south of Ukraine, only one sugar processing plant operated for a long time (in the Kherson province), and since

1861, their number has increased to three [37, p.30].

However, despite the fact that the railway network in the second half of the 19th century was formed, the results of the operation of railway transport showed that at the initial stage the railways were unprofitable. The main reason that hindered the transformation of railway transport into an efficient type was a technical error in the design of the railway. The railway transport network was formed according to the meridian principle, which allowed to distribute the flows of goods in the direction of the Black Sea ports, due to which the south of Ukraine turned into a starting point in the construction of railways [38, p.53]. The mistake was that the construction of the railway was carried out in such a way that important trade points were distant from Odessa, and the region turned into only a transit point, at the same time, the operation of railways required additional costs, which turned them into a loss-making enterprise [39, p. 3; 40, p. 6]. The construction of railway tracks was carried out in the form of an arc, which was supposed to cover as wide an agricultural area as possible [41, p.17]. Development of the railway network at the end of the 19th century taking into account previous mistakes, as well as the liquidation of the privately owned monopoly on railway transport in the 90s of the XIX century made it possible to increase traffic on state railways at the same time, which contributed to increasing the profitability of railway lines. State control over the technical condition of railways led to a reduction in operating costs. At the end of the 19th century the net profit from the operation of railways amounted to 138,809,573 thousand rubles, most of the funds were directed to the development of the economy of Southern Ukraine [42, p.16-17].

CONCLUSION

Thus, in the second half of the 19th - at the beginning of the 20th century the process of modernization of the economy was completed in the south of Ukraine. This was facilitated by the development of the railway transport network. The expansion of urban infrastructure, the improvement of means of transport in cities, the establishment of railway connections in the south of Ukraine contributed to strengthening the economic ties of the region. The appearance of nodal railway stations, which gradually

grew into cities of a new type - railway hubs, accelerated urbanization processes in the south of Ukraine. Railways provided transport links between different economic regions, opened new markets for industry, raw material sources with labor and sales markets products. In general, railway transport stimulated the development of the metallurgical and mining industry, machine building, and the production of construction materials in the south of Ukraine. The construction of railways created a demand for railway equipment - wagons, locomotives, rails, which became the backbone of industrial development. Only at the end of the 19th - at the beginning of the 20th century the two largest steam locomotive factories in Ukraine - Kharkiv and Luhansk produced about 2.5 thousand steam locomotives of domestic production. The formation and development of railway transport influenced the development of traditional branches of the economy. Railway construction contributed to the development of the commodification of agriculture, the expansion of the national economic complex, the integration of Southern Ukraine into the national economic space.

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